THE death is announced in his seventy-second year of Mr. George Newlyn, formerly connected with the Kew Botanical Garden and a writer in popular science.

M. F. P. J. GUÉGUEN, late professor of botany in the School of Agriculture at Grignon, has died at the age of forty-three years.

DR. JIORDANO, professor in the University of Palermo, known for his work on the diseases of miners, died on July 10.

DR. ALFRED SCHLIZ, the German anthropologist, has died at Heilbrun, at the age of sixty-six years.

FOLLOWING out the provisions of the late Mrs. Keenan, who left $300,000 to establish and maintain a free medical dispensary in Milwaukee, a meeting is soon to be held between the trustees of the fund and the city health department to work out the arrangements as contemplated in the will.

DURING the present summer the regents of the University of New Mexico have instituted a survey of the lands in the university state endowment, of which there are nearly 300,000 acres still owned by the university. Charles T. Kirk, of the New Mexico Natural Resources Survey, and John D. Clark, of the department of chemistry at the University of New Mexico, have been placed in charge of the work.

UNIVERSITY AND EDUCATIONAL NEWS

DR. EDGAR NELSON TRANSEAU, now a professor in the Southwestern Normal School, Charleston, Ill., goes to Ohio State University next year as professor of plant physiology.

PROFESSOR ROY H. PORTER, of Iowa State College, has become head of the department of mechanical engineering at the New Hampshire College to succeed Professor Richard E. Chandler resigned. Professor Porter took his B.S. degree in mechanical engineering at the University of Maine in 1906 and the degree of mechanical engineer at Iowa State College in 1912. He has been instructor in mechanical engineering at Iowa State College, was made assistant professor there in 1908 and associate professor in 1913.

AT Bryn Mawr College Dr. Frederick H. Getman, associate professor of chemistry, has resigned, and Dr. James Llewellyn Crenshaw has been appointed associate in physical chemistry. Dr. Crenshaw has been instructor in chemistry in Centre College and in Princeton University. From 1911 to 1915 he has been research assistant in chemistry in the Carnegie Institution of Washington.

DR. P. H. RÖMER, director of the Institute of Hygiene at Greifswald, has been called to Halle as successor to Professor Fränken.

PROFESSOR HARRIES, of Kiel, director of the chemical laboratory, has declined a call to Göttingen.

DR. KONRAD PICHORIUS, professor of ancient history at Breslau, has been appointed professor at Bonn, as successor to Professor Ulrich Wilcken.

DISCUSSION AND CORRESPONDENCE

ELEMENTARY MECHANICS

THE letter of Professors Franklin and MacNutt[1] is a helpful contribution to the discussion of the laws of motion. I wish especially to endorse their remarks upon the law of action and reaction. The idea that action and reaction, because equal and opposite, are balanced forces, is responsible for more confusion, perhaps, than any other error connected with the laws of dynamics. An instance of this occurs in a comparatively recent article in which the author assumes that a body acted upon by an unbalanced force must be retarded by an equal and opposite "ether-friction" in order to satisfy the law of action and reaction; forgetting that if such were the case the force would really be balanced and the body would have no acceleration. The explanations given by Professors Franklin and MacNutt of the second law of motion and of popular and scientific usage regarding the terms mass and weight are also, in the main, calculated to promote clear thinking about these matters. That "the result of weighing a body on a balance scale" is a proper measure of "amount of material," however, certainly requires explanation to the beginner.

The writers apparently attribute to me some

[1] SCIENCE, July 9, 1915, p. 56.

part of the responsibility for the hopeless confusion which they allege exists regarding the distinction between mass and weight. Their own explanation of this matter however differs from mine chiefly in the picturesqueness of the language employed. I have, indeed, recognized[2] that if full rigor is insisted on it is necessary to make a distinction not mentioned by Professors Franklin and MacNutt. The word weight, according to scientific usage, does not usually mean the actual "force with which the earth pulls on a body," but something which differs from this because of the earth's rotation. I have not advocated introducing this distinction in the first explanation of weight to students; but it can not be permanently avoided if any important attainment is reached in the study of dynamics.

Since the writers have referred to me in connection with the meaning of the division by g, I may say that I certainly am not one of those who believe that weight is converted into mass by dividing by g or by any other process. I believe, however, that the fact should be made clear that mass, like any other measurable magnitude, is expressible in different units; and that the reduction from one unit to another involves precisely the same kind of reasoning in the case of mass as in the case of length or velocity. One can not understand the reduction of a length from feet to meters unless he understands the meaning of both the foot and the meter; a similar statement holds concerning the reduction of a mass from pounds to tons, or from pounds to "slugs." Moreover, I see no reason why the unit which has been called the slug should be regarded with ridicule, or even with semi-ridicule. The question of what unit to employ for any given purpose is properly decided by convenience. The convenience of the "slug" is due to two facts—(1) that the pound-force is customarily employed in a great deal of practical work and (2) that the dynamical formulas almost universally used are based upon a relation of units such that *unit force acting upon unit mass causes unit acceleration.* And there should be no more difficulty in understanding the definition of the "slug" than that of the dyne or the "standard pound-force" or any other unit which is defined by an appeal to the law of acceleration.

L. M. HOSKINS

[2] SCIENCE, April 23, 1915, p. 611.

QUOTATIONS

BRITISH SCIENTIFIC MEN AND THE GOVERNMENT

IN addition to appointing committees to consider suggestions or inventions, the Royal, Chemical and Physical Societies have taken steps to obtain registers of their fellows classified according to special knowledge and to scientific services which the fellows are willing, as well as specially qualified, to perform. The idea in each case is to secure cooperation among the fellows of the particular societies, and to examine by means of committees any promising suggestions relating to munitions of war or kindred subjects. No one knows precisely what will be done with the registers when they have been completed. Each society seems to be compiling its list independently and without any clear view of the use which will be made of the experts' services which will become available by the response to its circular. No scheme has yet been put forward by which definite national duties will be assigned to the hundreds of scientific men who are enrolling themselves on the registers of their respective societies. . . .

The laboratories of our universities, university colleges and technical institutions are at the disposal of the government, and in many of them men are devoting twelve hours a day to work in connection with the supply of munitions of war. A few days ago the members of the Royal Institution decided to offer the resources of their laboratories and of the Davy Faraday Research Laboratory to the government for the prosecution of any particular research by officers of the admiralty, war office or ministry of munitions; and the managers invited communication from these departments "in case there is any field of research in relation to or connected with chemical and physical science, or either of them, to which the professors, assistants and staff of the Royal Institution or of the laboratory can usefully direct their attention with the view of